

Remarks

Favorable reconsideration of this application is requested in view of the following remarks. For the reasons set forth below, Applicant respectfully submits that the claimed invention is allowable over the cited references.

The non-final Office Action dated February 3, 2002, indicated that prosecution has been reopened; claims 18-21, 26 and 27 stand rejected under 35 U.S.C. §102(b) as being anticipated by *Okumura et al.* (U.S. Patent No. 5,015,330); claims 22-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Okumura et al.* in view of *Jeng et al.* (U.S. Patent No. 5,710,073); and claims 28-30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Okumura et al.* in view of *Bartholomew et al.* (U.S. Patent No. 6,143,080).

Applicant respectfully traverses each of the prior art rejections as the Office Action fails to present a *prima facie* case of rejection in each instance.

With respect to the §102(b) rejection, the Office Action fails to present a reference which completely corresponds to the claimed invention or even attempt to align each of the claimed limitations with the asserted '330 reference. The Office Action fails to align the '330 reference to Applicant's claimed supplying a uniform supply of gas to the surface of a wafer, using a gas injector adapted to maintain a uniform supply of gas, in a zone of the CVD arrangement that would exhibit a depleted gas supply absent the injector. At column 6, the '330 reference acknowledges that in the chamber, the plasma and process gas are distributed unevenly in the wafer zones. For this reason, the '330 reference teaches that the wafers must be rotated by a rotary shaft (88 of Fig. 8) to obtain a uniform thickness (Col. 8, lines 4-9). The Office Action does not attempt to identify any zone in which a uniform supply of gas is supplied to the wafer surface.

Regarding Fig. 8, Col. 10, lines 3-7 also teaches that the wafers must be rotated "to achieve a uniform thickness on each wafer." The wafers are rotated because the zone in which each wafer is coated is a zone that does not have a uniform supply of gas. This is completely different than Applicant's claimed invention. The '330 reference teaches putting wafers in a zone that receives uneven amounts of gas and, by rotating the wafers, the '330 teachings compensate for the fact that the wafers are processed in respective zones that do not have a uniform supply of gas. Applicant's entirely different approach,

is to put wafers in a zone that receives a uniform supply of gas (*see, e.g.*, Specification, various embodiments discussed at pages 7-9), and by maintaining a uniform supply of gas in the zone, a uniform coating is formed on the wafer.

With respect to claims 20 and 21, the Office Action provides no citations or attempted alignment of the claimed invention to the '330 reference. The electrodes relied upon by the Office Action are not related to the embodiment of Figure 8. The electrodes are associated with a different embodiment disclosed in Figure 1 and are used in heating the reaction chamber, not for supplying gas.

With respect to claim 26 and 27, again no citations or alignment are provided and the embodiment of Figure 8 contains no discussion of the deposit of a uniform coating or adjusting the injector. In fact, the alleged adjustment would not work in the embodiment of Figure 8 because no control is provided to deposit a coating on the wafer having uniform thickness. These failures to show complete correspondence between the '330 reference and the claimed invention render the §102(b) rejection improper and Applicant requests that the rejection be withdrawn.

Applicant respectfully traverses the §103(a) rejection of claims 22-25 because as discussed above, the asserted combination of references fails to correspond to each of the claimed limitations and the asserted combination would frustrate the purpose of the '330 reference. The embodiment of Figure 8 is directed to forming a Si_3N_4 passivation film on the wafers. Modifying the '330 reference to use the gases taught by the claimed invention or to form the claimed films would prevent the formation of the '330 reference's Si_3N_4 passivation film, thereby frustrating the purpose of the Figure 8 embodiment. To suggest that one skilled in the art would modify the '330 reference in this manner is untenable and improper. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) (A §103 rejection cannot be maintained when the asserted modification undermines the purpose or operation of the main reference.)

Applicant respectfully traverses the §103(a) rejection of claims 28-30 because the asserted combination of references fails to correspond to each of the claimed limitations, as discussed above in connection with the '330 reference and with respect to the '080 reference. The Office Action acknowledges at page 5 that the '330 reference fails to disclose a gas concentration detector in the CVD arrangement and adjusting the gas

injector in response to a detected concentration. In an attempt to overcome this deficiency, the Office Action erroneously cites the '080 reference which does not teach or suggest adjusting a gas injector (Appellant's claims 27 and 28), does not teach or suggest a gas concentration detector (Appellant's claims 28 and 29), does not teach or suggest removing the gas concentration detector from the CVD arrangement after detecting a concentration (Appellant's claim 29), and does not teach or suggest detecting the concentration of the supplied gas (Appellant's claim 30) as asserted by the Office Action.

As discussed previously, the '080 reference is directed to maintaining a substantially constant exhaust flow rate in various regions (*see, e.g.*, Abstract, col. 2, lines 8-10 and 15-20; col. 5, lines 10-14 ("effluent gas stream"); col. 10, lines 25-27 ("load and unload exhaust gas paths"), lines 35-43; Figures 1, 4 and 5; Claim 1 ("an exhaust flow control system")), whereas the present invention is directed to delivering a uniform supply of gas to a zone in the CVD arrangement via an injector having spatially well-placed injection holes, rather than simply by controlling flow rate to be constant (*see, e.g.*, Figs. 1-4 of the instant application). Monitoring and controlling the gas flow exhaust path does not correspond to the claim limitations regarding using an injector to supply gas uniformly to a zone that would otherwise exhibit a depleted gas supply. Therefore, the '080 reference does not address the limitations involving depletion of gas supply in the CVD arrangement as claimed. The Office Action provides no citations or attempted alignment of the '080 reference with the claimed limitations and therefore, the Office Action fails to show the requisite correspondence to support a §103(a) rejection and Applicant requests that the rejection be withdrawn.

Moreover, Applicant submits that the Office Action fails to present evidence of motivation in support of the modifications of the cited '330 reference. Evidence has not been provided of any teaching or suggestion for using the '330 reference in connection with supplying a uniform supply of gas to the surface of a wafer, as claimed in the instant invention, or for modifying the reference to achieve the claimed limitations. Recent case law indicates that evidence of motivation must be specifically identified and shown by some objective teaching in the prior art leading to the modification. "Our court has provided [that the] motivation to combine may be found explicitly or implicitly: 1) in the *prior art references* themselves; 2) in the knowledge of those of ordinary skill in the art

that certain *references*, or disclosures in those references, are of special interest or importance in the field; or 3) from the nature of the problem to be solved, 'leading inventors to look to *references* relating to possible solutions to that problem.'" Ruiz v. A.B. Chance Co., 234 F.3 654, 57 USPQ2d 1161 (Fed. Cir. 2000). The Office Action fails to indicate evidence of why one skilled in the art would be led to modify the '330 reference, and does not provide any evidence of factual teachings, suggestions or incentives from the prior art that lead to the proposed modification and Applicant requests that the §103 rejections be withdrawn.

The above discussion presented in connection with the cited prior art merely sets forth reasons as to why the rationale presented in the Office Action fails to align and correspond the cited prior art with the invention as claimed. No amendments were made to the claims with respect to these references and it is believed that, after a careful review of the cited art, no arguments should be required to explain why the cited art is significantly different from the claimed invention. A *prima facie* case was not presented and, therefore, the above distinguishing discussion is unnecessary to overcome the rejections. The amendment to claim 18 was not made to overcome a patentability issue since one was not presented; rather, the amendment is presented to provide even clearer antecedent basis. See, M.P.E.P. §2173.05(e). Applicant respectfully submits that, by way of this Office Action Response, there is no intention to narrow, nor has the Applicant narrowed, the breadth of the claims as originally filed through the explanatory comments provided herein.

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance.

Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is encouraged to contact the undersigned at (651) 686-6633.

Respectfully submitted,

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